WE CLAIM AS OUR INVENTION:

1. A luminophore plate comprising:

a substrate;

an auxiliary layer disposed on said substrate, said auxiliary layer being rastered to form a plurality of alternating nubs and trenches; and

a storage luminophore layer applied on said auxiliary layer, said storage luminophore layer comprising luminophore needles of a storage luminophore formed on the respective nubs of said auxiliary layer by vapor deposition.

2. A luminophore plate as claimed in claim 1 wherein each of said nubs has a plurality of said luminophore needles formed thereon.

3. A luminophore plate as claimed in claim 1 wherein said auxiliary layer has a thickness in a range between 20 and 100 μm.

4. A luminophore plate as claimed in claim 1 wherein said auxiliary layer is composed of a material having a coefficient of thermal expansion in a range between 2.5×10^{-5}/°C and 4.7×10^{-5}/°C.

5. A luminophore plate as claimed in claim 1 wherein said auxiliary layer is rastered with a grid dimension defined by said nubs and trenches in a range between 10 and 100 μm.

6. A luminophore plate as claimed in claim 5 wherein each of said trenches has a width in range between 2 and 20 μm.

7. A luminophore plate as claimed in claim 1 wherein said auxiliary layer is composed of a plastic.

8. A luminophore plate as claimed in claim 1 wherein said auxiliary layer is composed of polyimide having a coefficient of thermal expansion in a range between 3.1×10^{-5}/°C and 3.5×10^{-5}/°C.

9. A luminophore plate as claimed in claim 1 wherein said auxiliary layer is composed of parylene C.

10. A luminophore plate as claimed in claim 1 wherein said auxiliary layer is rastered with a grid structure formed by said nubs and trenches that varies over a surface of said auxiliary layer onto which said storage luminophore layer is applied.

11. A luminophore plate as claimed in claim 1 wherein each of said nubs has a shape of an n-sided polygon.

12. A luminophore plate as claimed in claim 11 wherein n is between 3 and 6.

14. A luminophore plate as claimed in claim 1 wherein said auxiliary layer is rastered with a grid structure of said nubs and trenches formed by a plurality of n-sided polygons.

15. A luminophore plate as claimed in claim 14 wherein n is between 3 and 6.

16. A luminophore plate as claimed in claim 1 wherein each of said nubs has a shape of an n-sided polygon and wherein said auxiliary layer is rastered in a grid structure of said nubs and trenches formed by a plurality of n-sided polygons.

17. A luminophore plate as claimed in claim 16 wherein n is between 3 and 6.

18. A method for manufacturing a luminophore plate comprising the steps of:

disposing an auxiliary layer on a substrate, said auxiliary layer having an upper surface facing away from said substrate;

rastering said upper surface of said auxiliary layer by forming a plurality of alternating nubs and trenches at said upper surface of said auxiliary layer; and

applying a storage luminophore layer onto said upper surface of said auxiliary layer by vapor depositing luminophore needles of a storage luminophore on each of said nubs.

19. A method as claimed in claim 18 comprising vapor depositing a plurality of said luminophore needles on each of said nubs.

20. A method as claimed in claim 18 comprising rastering said upper surface of said auxiliary layer with a grid dimension of said nubs and trenches in a range between 10 and 100 μm.

21. A method as claimed in claim 20 comprising rastering said upper surface of said auxiliary layer with said grid dimension in a range between 20 and 50 μm.

22. A method as claimed in claim 20 comprising forming each of said trenches with a width in a range between 2 and 20 μm.

23. A method as claimed in claim 18 comprising rastering said auxiliary layer with grid structure that varies over said upper surface of said auxiliary layer.

24. A method as claimed in claim 18 comprising forming of said nubs as n-sided polygon.

25. A method as claimed in claim 24 wherein n is between 3 and 6.

26. A method as claimed in claim 18 comprising rastering said upper surface of said auxiliary layer with a raster structure comprising a plurality of n-sided polygons.

27. A method as claimed in claim 26 wherein n is between 3 and 6.

28. A method as claimed in claim 18 comprising forming of each of said nubs as an n-sided polygon, and rastering said upper surface of said auxiliary layer with a raster structure comprising a plurality of n-sided polygons.

29. A method as claimed in claim 28 wherein n is between 3 and 6.